

DEC 30 1993

Mr. Dwight E. Shelor, Associate Director  
for Systems and Compliance  
Office of Civilian Radioactive Waste Management  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585

Dear Mr. Shelor:

SUBJECT: REVIEW OF U.S. DEPARTMENT OF ENERGY RESPONSES TO SCA COMMENT  
75 AND QUESTION 1

Enclosed is the Nuclear Regulatory Commission staff's evaluation of the further response by the Department of Energy (DOE) to the staff's Site Characterization Analysis (SCA) Comment 75 and Question 1. The staff finds that, based on DOE's responses (letter, D. Shelor to J. Holonich, dated November 1, 1993), both NRC concerns are resolved.

If you have any questions or comments concerning the staff's evaluation, please contact Ms. Charlotte Abrams of my staff. Ms. Abrams may be reached at (301) 504-3403.

Sincerely,

*WS*

C. William Reamer, Acting Director  
Repository Licensing and Quality Assurance  
Project Directorate  
Division of High-Level Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: As stated

cc: See next page

*102.8*  
*WM-11*  
*NAH/16*

070025

9401110314 931230  
PDR WASTE  
WM-11 PDR

## ENCLOSURE

Section 8.3.4.2.4.4 Study 1.10.4.1: Engineered barrier system field tests (p. 8.3.4.2-57)

Section 8.3.5.7 Issue resolution strategy for Issue 4.1: Can the higher-level findings required by 10 CFR Part 960 be made for the qualifying condition of the preclosure system guideline and the disqualifying and qualifying conditions of the technical guidelines for surface characteristics, rock characteristics, hydrology, and tectonics? (p. 8.3.5.7-11)

Section 1.8.1.1 Geomorphology (p. 1- 325).

Section 1.8.1.4 Seismology and seismicity (p. 1-335).

Section 1.8.1.7 Mineral and hydrocarbon resources (p. 1-342).

### COMMENT 75

The term "geologic setting" is cited frequently throughout the SCP in reference to diverse subject areas comprising the "geologic setting;" however, the term itself has neither been defined (see SCP, Volume VIII, Part B: Glossary and Acronyms) nor used consistently, that is, the component natural systems have not been systematically identified and described in plans to characterize them.

### EVALUATION OF THE DOE RESPONSE

DOE indicates that specific areas of study within the geologic setting will vary in size depending on the natural system and the conditions or processes that are being evaluated in the study. This approach appears to be consistent with the guidance on the approach to consideration of "geologic setting" provided by the staff in NUREG-1451 (p. 5).

In future reviews of DOE documents, the staff will continue to assess the adequacy of DOE's approach to the consideration of the Geologic Setting and its consistency to the accepted approach in NUREG-1451.

DOE has revised the limit on regional investigations of volcanism in the Yucca Mountain area basing the extent of investigations on geologic criteria.

The staff considers this comment resolved.

### REFERENCE

U.S. Nuclear Regulatory Commission, "Staff Technical Position on Fault Displacement Hazards and Seismic Hazards at a Geologic Repository," NUREG-1451, July, 1992.



Section 8.3.1.17.4.9.3 Activity: Evaluate variations in the nature and intensity of Quaternary faulting within 100 km of Yucca Mountain through morphometric and morphologic analyses

Section 8.3.1.17.4.12.1 Activity: Evaluate tectonic processes and tectonic stability at the site

#### SCA Question 1

The SCP lists many surficial mapping projects, some of which are currently ongoing or are near completion. How does the DOE plan to integrate these various mapping tasks and the resultant information?

#### EVALUATION OF DOE RESPONSE

The recommendation for this question requests that DOE develop a program to integrate mapping studies at scales appropriate to fulfill the objectives of the proposed activities. DOE has indicated in its response that the Geographic Information System will be YMPO's main integration tool.

In recent attempts to obtain technical data through DOE's GIS, the staff has been unsuccessful in receiving this data in a timely manner.

While the staff still has concerns as noted above, a methodology now appears to be in place to integrate the various mapping activities.

The staff considers this question resolved.